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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/777,549

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Giuseppe Di Sante

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5748

7590

07/19/2006

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EXAMINER

GOFF II, JOHN L

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/777,549

Applicant(s)

DI SANTE ET AL

Examiner

John L. Goff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17 and 20-34 is/are pending in the application.
- 4a) Of the above claim(s) 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17 and 21-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the amendment filed on 5/15/06. The previous objections to the specification have been overcome. The previous 35 USC 112 rejections have been overcome.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Drawings

3. The drawings were received on 4/12/06. These drawings are acceptable.

Claim Rejections - 35 USC § 112

4. Claims 17 and 21-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 17 recites the limitation "on either side of polymer (A) impregnated with resin (B)" in lines 7 and 8. There is insufficient antecedent basis for this limitation in the claim. Claim 17 was amended in lines 5 and 6 from "a layer of spongy, semirigid polymer (A), impregnated on one or both sides with polyurethane resin (B)" to "a layer of spongy, semirigid polymer (A), coupled on one or both sides with a layer of polyurethane resin (B)". However, lines 7 to 11 of current claim 17 refer to the "side of polymer (A) impregnated with resin (B)". Since the claim does not require impregnating polymer (A) with resin (B) during coupling there is no antecedent

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basis for the polymer (A) impregnated with resin (B). It is suggested applicants amend claim 17, line 6 to insert - - impregnated - - after “a layer of” to overcome the rejection.

Claim Rejections - 35 USC § 103

6. Claims 17, 21-23, 25, 26, and 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doerer et al. (U.S. Patent 5,089,328).

Doerer et al. disclose a method of providing a multilayer product used as car interior lining and fitting elements comprising a first element wherein the first element consists of a layer of spongy, semi-rigid polymer (A) (14' of Figure 3), i.e. foam polymer, impregnated/coupled on both sides with polyurethane resin (B) (14' of Figure 3) adhesive layers for coupling a layer of glass fibre (C) (22' of Figure 3) on both sides of polymer (A) impregnated with resin (B) and coupled to the first element a second element wherein the second element comprises a layer of spongy semi-rigid polymer (A) (16' of Figure 3), i.e. foam polymer, impregnated/coupled on both sides with polyurethane resin (B) (16' of Figure 3) adhesive layers for coupling an additional layer of natural fibre (C) (18' of Figure 3) on a side of polymer (A) impregnated with resin(B) and forming a (C)(B)(A)(B)(C)(B)(A)(B)(C) multilayer product (Figure 3 and Column 1, lines 4-20 and Column 2, line 65 – Column 3, line 47 and Column 4, lines 3-40 and Column 5, lines 7-11). Doerer et al. are silent toward the step of installing the multilayer product in a car interior. However as noted above, Doerer et al. teach the multilayer product is used in a car interior such that use in this manner is only possible by the installation of the multilayer product in a car interior, it being noted the term “installing” in the claims requires only inserting the multilayer product into a car interior. Thus, it would have been obvious to one of ordinary skill

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in the art at the time the invention was made to install the multilayer product taught by Doerer et al. in a car interior to carry out the use as suggested by Doerer et al.

Regarding claims 22 and 23, Doerer et al. teach that the spongy, semi-rigid polymer is selected from polyurethane, polyester, etc. (Column 3, lines 25-30). Regarding claim 25, Doerer et al. teach that the spongy, semi-rigid polymer which forms layer (A) may be the same polymer in all the (A) layers (Column 7, lines 33-39). Regarding claim 26, Doerer et al. teach that the spongy, semi-rigid polymer which forms layer (A) may be a polymer having different densities in the various (A) layers (Figure 3 and Column 6, lines 18-32). Regarding claim 29, Doerer et al. teach one side of the multilayer product comprises a fabric lining or layer of anti-vibration material (D) (12' of Figure 3 and Column 3, lines 21-24). Regarding claims 30-34, Doerer et al. teach that the thickness of layer (A) is about 7 mm and can be somewhat thinner or thicker (~2mm), the layers (A) may have the same or different thickness, and the thickness of layers (A) is dependent upon the desired acoustical properties, density, hardness, etc. (Column 3, lines 58-60; Column 4, lines 9-11 and 20-21; Column 6, lines 18-32 and Column 7, lines 33-39). It would have been obvious to one of ordinary skill in the art at the time the invention was made to experimentally determine the thickness of layers (A) within the range given by Doerer et al. as a function of the desired acoustical properties, density, hardness, etc. as doing so would have required nothing more than ordinary skill and routine experimentation.

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doerer et al. (U.S. Patent 5,089,328) in view of Ishii et al. (U.S. Patent 4,938,819).

Doerer et al. as applied above teach all of the limitations in claim 24 except for a teaching of the density of the spongy, semi-rigid polymer ranging from 20 to 40 kg/m³. However, Doerer

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et al. teach the density of the spongy, semi-rigid polymer is dependent upon the use of the polymer, e.g. high density is useful for attachment purposes while low density gives a better appearance and increased acoustical properties (Column 6, lines 28-32). Ishii et al. are directed to making a composite panel of a spongy, semi-rigid polymer, e.g. polyurethane foam, used in a car interior lining having densities including 20 and 31 kg/m³ (Column 8, lines 29-30 and Column 13, lines 25-26). Absent any unexpected results, it would have been obvious to one of ordinary skill in the art at the time the invention was made to experimentally determine the density of the spongy, semi-rigid polymer taught by Doerer et al. as a function of the desired use of the polymer in the multilayer product as doing so would have required nothing more than ordinary skill and routine experimentation wherein spongy, semi-rigid polyurethane foam panels used in the same art are known to have densities within the claimed range as shown by Ishii et al.

8. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doerer et al. (U.S. Patent 5,089,328) in view of Stevens et al. (U.S. Patent 5,976,646).

Regarding claim 27, Doerer et al. as applied above teach all of the limitations in claim 27 except for a teaching of substituting jute, sisal, coir or other natural materials for the glass fiber. Stevens et al. are directed to vehicle trim panels including natural fibers such as hemp, abaca, sisal, or flax as opposed to glass fibers to reduce skin irritation (Abstract; Column 2, lines 48-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use natural fibers, such as sisal, instead of the glass fibers in the method of Doerer et al. as suggested by Stevens et al. to prevent skin irritation.

Regarding claim 28, Doerer et al. as applied above teach all of the limitations in claim 27 except for a teaching of coupling on both the outer sides of the multilayer product layers of light

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fabrics, covering fleece, or a combination of layers of light fabrics or covering fleece (D) to obtain a product with the structure (D)(C)(B)(A)(B)(C)(B)(A)(B)(C)(D), it being noted as taught above Doerer et al. do teach including a lower scrim layer (D). Stevens et al. teach having a decorative fabric outer layer (D) (22 of Figure 2) and a scrim layer (D) (30 of Figure 2) made of polyester or rayon non-woven material surrounding a first element comprising a spongy, semi-rigid polymer (A) (26 of Figure 2) coupled on both sides with polyurethane resin to form adhesive layers (B) (32 and 34 of Figure 2) for coupling layers of natural fibre (C) (24 and 28 of Figure 2) on both sides of polymer (A) coupled with resin (B) (Figure 2 and Column 2, lines 22-47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in Doerer et al. on the multilayer outer surface opposite the scrim a fabric outer layer as taught by Stevens et al. for decorative purposes.

9. Claims 17, 21-23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hofer (U.S. Patent 4,034,137) in view of Satterfield et al. (U.S. Patent 5,007,976).

Hofer teaches a method of providing a multilayer product used as a car interior lining and fitting element comprising a first element wherein the first element consists of a layer of spongy semi-rigid polymer (A) (8 of Figure 1), e.g. polyurethane foam, impregnated/coupled on both sides with resin (B) (8 of Figure 1) adhesive layers for coupling a layer of glass fibre (C) (14 and 22 of Figure 1) on both sides of polymer (A) impregnated with resin (B) and coupled to the first element a second element wherein the second element comprises a layer of spongy semi-rigid polymer (A) (6 of Figure 1) impregnated/coupled on one or both sides with resin (B) (6 of Figure 1) adhesive layers for coupling a layer of glass fibre (C) (20 of Figure 1) on a side of polymer

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(A) impregnated with resin (B) and forming a (C)(B)(A)(B)(C)(B)(A)(B)(C) multilayer product (Figure 1 and Column 1, lines 13-18 and Column 3, line 54 – Column 4, line 63).

Hofer is silent toward the resin (B) being polyurethane, but teaches that the liquid thermosetting resin can be any of those well known in the art for making automobile bodies (Column 4, lines 57-58). Satterfield et al. are directed to making a multilayer headliner that is mounted in the passenger compartment of a vehicle and teaches the multilayer is held together by impregnating several layers of the headliner with polyurethane resin (Abstract; Column 3, lines 16-17). Absent any unexpected results, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the resin (B) taught by Hofer for coupling the layers of the multilayer product polyurethane resin as was well known in the art as shown by Satterfield et al. as only the expected results of bonding the spongy semi-rigid polymer (A) with the layers of glass fibre (C) would be achieved.

Hofer is also silent toward the step of installing the multilayer product in a car interior. However as noted above, Hofer teaches the multilayer product is used in car interiors such that use in this manner is only possible by the installation of the multilayer product in a car interior, it being noted the use of “installing” in the claims requires only inserting the multilayer product into a car interior. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to install the multilayer product taught by Hofer in a car interior to carry out the use as suggested by Hofer wherein Satterfield et al. is further cited as exemplary of multilayer products of the same type used in a car interior wherein the multilayer products are “installed” in the car interior.

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Regarding claims 22, 23, and 25, Hofer teaches that the spongy, semi-rigid polymer in all of the layers (A) is polyurethane (Column 3, lines 56-57).

Response to Arguments

10. Applicant's arguments with respect to claims 17 and 21-34 have been considered but are moot in view of the new ground(s) of rejection.

Applicants argue, "The '328 patent discloses a multilayer material having a substantially different structure than the one taught by the present invention."

The structure of the multilayer product disclosed by Doerer et al. is set forth above wherein the materials and specific layers of the multilayer product are the same as those claimed. Applicants have not shown how the multilayer product described by Doerer et al. differs from that claimed.

Applicants argue, "Contrasted with the '328 patent, one of the novel characteristics of the present invention is that the multilayer product is formed and assembled before entering the "forming mold", namely before entering the mold which yields the final product. Page 8, lines 20-25." and "The '328 patent requires a continuous variation in the thickness and density of the different areas of each single sheet, together with the preparation of dies suitably contoured depending on the characteristics of acoustical quality, dampening, density, hardness, and esthetics required for the different areas of the final panel. This is contrasted with the present invention which has the ability to add sheets only to the area which requires increased thickness or density."

The claims are not commensurate in scope with these arguments, as the claims do not require these limitations.

Applicants further argue, "The Examiner has combined the ('328 patent with the '819 patent in order to obviate the claim. The Examiner has not provided sufficient motivation for combining the prior art patents. The Examiner merely states that it would be obvious to choose the best density for the best application."

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As noted above, Doerer et al. teach the density of the spongy, semi-rigid polymer, i.e. polyurethane foam, is dependent upon the use of the polymer, e.g. high density is useful for attachment purposes while low density gives a better appearance and increased acoustical properties, and Ishii et al. are cited to show a composite panel of a spongy, semi-rigid polymer, e.g. polyurethane foam, used in a car interior lining has densities including 20 and 31 kg/m³ wherein absent any unexpected results it would have been obvious to use in Doerer et al. the densities suggested by Ishii et al.

Applicants further argues, "Regarding claim 27 and 28, the '646 patent teaches natural fibers or light fabrics placed on a decorative foam mat. The present invention discloses a method of constructing various multilayer sheets. The Examiner fails to put forward a valid motivation for combining the references other than the presence of natural fibers or light fabrics."

As noted above, the motivation for combining Doerer et al. and Stevens et al. is in providing a multilayer product with reduced skin irritation having a decorative surface.

Applicants further argue, "Regarding claim 32, the Examiner fails to recognize that part of the novelty of the present invention is the ability to alter the density of different areas of the sheet by adding select layers."

Claim 32 is not commensurate in scope with this argument.

Applicants further argue, "As stated earlier, the present invention uses a semi-rigid polymer that is then coupled to one or two layers of thermosetting resin. The prior art patent requires a liquid to be injected between two base layers, and then compressed and heated. This is a far more complex and expensive an undertaking than the present invention."

Claim 17 requires "a layer of spongy, semirigid polymer (A), coupled on one or both sides with a layer of polyurethane resin (B)". Hofer teaches a layer of spongy semi-rigid polymer (A) (8 of Figure 1), e.g. polyurethane foam, completely impregnated, i.e. coupled, on both sides with resin (B) (8 of Figure 1) adhesive layers for coupling a layer of glass fibre (C)

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(14 and 22 of Figure 1) on both sides of polymer (A) impregnated with resin (B). Thus, the claim limitation is met.

Applicants further argue, "The Examiner has not put forward a valid reason for combining the two prior art patents. In fact, the prior art patents are not in the same classification, as evidenced by their classification numbers. Even if the '967 and '137 patents were in the same field, which they are clearly not, the Examiner has not disclosed why it would have been obvious to use the current inventions construction method in light of the teaching of the prior art patents."

Hofer teaches that the liquid thermosetting resin (B) can be any of those well known in the art for making automobile products. Satterfield et al. are directed to making a multilayer headliner that is mounted in the passenger compartment of a vehicle and teaches the multilayer is held together by impregnating several layers of the headliner with polyurethane resin, and thus, absent any unexpected results using the resin taught by Satterfield et al., i.e. resin well known in the art for making automobile products, in Hofer would have been obvious.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

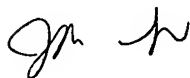
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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

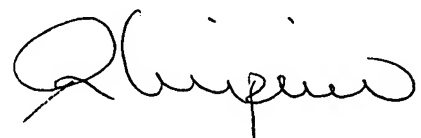
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is (571) 272-1216. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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